

LETTERS

Collins' solution is, in fact, an intracellular electrolyte-type solution which is iso-osmotic and, as such, does not have the capacity to prevent the movement of water into ischemic cells. We were able to remedy this physico-chemical malady by rendering a similar intracellular electrolyte solution hyperosmolar upon the addition of mannitol. By altering the intracellular electrolyte composition of Collins' basic solution, and by rendering the solution hyperosmolar upon the addition of mannitol, we have been able to preserve canine kidneys for 48 and 72 hours by initial perfusion and hypothermic storage.

We feel that Dr. Jamison should be aware of these data.

We would again like to thank him for his complete review of a difficult subject, and for the meaningful experimental contributions which he has made.

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The Author Replies

I thank Dr. Sacks for his comments and apologize for not including a reference to his excellent work, of which I was indeed aware. However, I

did not intend the list of references in my review to be comprehensive and thought several points made by Sacks et al (Sacks SA, Petritsch PH, Kaufman JJ: Canine kidney preservation using a new perfusate. *Lancet* I:1024, 1973) were also made in the paper by Acquatella et al (Acquatella H, Pérez-González M, Morales JM, Whittembury G: Ionic and histological changes in the kidney after perfusion and storage for transplantation. *Transplantation* 14:480, 1972). Moreover, some reservations have been expressed by the latter authors (Whittembury G, González C, Acquatella H: Letter to the Editor. *Lancet* II:446, 1973) about the use of some constituents in the solution recommended by Sacks et al and Sacks has responded (Sacks SA: Letter to the Editor. *Lancet* II:622, 1973).

Collins et al (Collins GM, Bravo-Sugarman M, Terasaki PI: Kidney preservation for transportation. *Lancet* II:1219, 1969) refer to four different solutions, C₁ to C₄. The solution the authors recommend, C₄, is hyperosmotic, in the conventional meaning of the term, that is, having an osmolality significantly greater than that of plasma (which is approximately 290 mOsm/kg H₂O), although it is not nearly as hyperosmotic as the solutions used by Sacks et al.

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